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cancel*

The isolated-integrator band-reject filter 20 uses capacitors of equal value, designated C, which may be inexpensive NPO ceramic capacitors. In addition to using capacitors of equal value, the resistors R are of a single value. The exception to the general rule of equal value for resistors R is the single tuning resistor R/12, which is connected to ground and provides a means to prevent unwanted noise during the tuning process. As can be seen in Figure 1, resistor R/12 may be variable; however, the value shown is a value of R/12. In general, the ratio for the value of resistors R of isolated-integrator band-reject filter 20 to resistor R/12 is at worst 12 to 1, which is still well within the range of screened-on processes. Therefore, for simplification, the value presented is R/12.

Please replace paragraph 24 of the specification with the following rewritten paragraph:

a2

[0024] Referring now to Figure 2, three embodiments of the present invention are shown in which isolated-integrator band-reject filter 20 is incorporated into the resistive branches of Sallen & Key active low-pass filters. The characteristic null equation of the filters shown in Figs. 2a, 2b, and 2c is:

$$f(\text{null}) = \frac{\sqrt{3}}{(2\pi R_2 \times C_2)}$$

or

$$= \frac{\sqrt{3}}{(2\pi R_6 \times C_4)}$$

wherein

$$R_7 = \frac{R_6}{12}$$

and

$$R_3 = \frac{R_2}{12}$$

Additional information regarding the Sallen & Key filter is given in the article "A Practical Method of Designing RC Active Filters," authored by R. P. Sallen and E. L. Key on pages 51-62 of the March 1955 issue of IRE Transaction Circuit Theory which is incorporated herein by reference. Although isolated-integrator band-reject filter 20 is placed within a resistive branch of the Sallen & Key filter, additional series resistors are not required in the input or output terminals of the original Sallen & Key filter unless a pole at infinity is desired.